

Proposed Claim Amendments:

1. A system for ~~informing that the user is in or not in wireless LAN service area~~ providing information of a hot spot dealer that provides service for a user in a wireless LAN service area, comprising:

a preset data storing means for storing identification data of ~~[[a]]~~ the hot spot dealer, ~~which is a first service provider to which the user is subscribed to, and identification data of a hot spot dealer or a second service provider in roaming contract relation to the user's own subscribed hot spot dealer~~ first service provider, the identification data of each of the first and second service providers ~~hot spot dealer to which the user is subscribed corresponding to an~~ includes a unique identification code ~~that is unique to the hot spot dealer to which the user is subscribed and which is the same for all other users who are subscribed to the hot spot dealer and does not include any data unique to the user or any of the other users;~~

a wireless communication means ~~that includes a display means; and for obtaining the electric field intensity and the identification code of the hot spot dealer,~~

~~a means functioning:~~

~~when providing a display as to whether the user is in the service area of a hot spot service, to obtain, via the wireless communication means, the electric field intensity of a channel as a subject of survey and identification data of a dealer, which is transmitted on the channel, and check for checking whether the obtained identification data code is identical with the identification data code of the user's own subscribed hot spot dealer, which is stored in the preset data storing means; first service provider or the second service provider; and~~

~~when the obtained identification data is identical with the identification data of the user's own subscribed hot spot dealer, to output data for display on the display means to enable the user to determine that the obtained electric field intensity is that of the user's own subscribed hot spot dealer and not that of the roaming contract relation dealer; and~~

~~when the obtained identification data is identical with the identification data of the roaming contract relation dealer, to output data for display on the display means to enable the user to determine that the obtained electric field intensity is that of the roaming contract relation~~

~~dealer and not that of the user's own subscribed hot spot dealer~~

a display means that includes:

a light-emitting means; and

a control means for causing the light-emitting means to emit informing light in a first color if the hot spot dealer is the first service provider and in a second color different from the first color if the hot spot dealer is the second service provider; and

wherein a network congestion degree is displayed on the display means by a flickering cycle of the light-emitting means.

2. (Canceled) – its features now included in claim 1.

3. (Canceled).

4. ~~The system for informing that the user is in or not in a wireless LAN service area~~ according to claim 1, which further comprises a means for collecting data link layer level protocol data, obtaining the network congestion degree in the service area and outputting the obtained network congestion degree to the display means.

5. (Canceled) – its features now included in claim 1.

6. ~~The system for informing that the user is in or not in a wireless LAN service area~~ according to claim 4, wherein the ~~display means includes:~~

~~a light emitting means; and~~

~~a means functioning:~~

~~to have the light emitting means to emit light in different colors in the case of displaying that the user is in the service areas of the user's own contracted hot spot dealer and in the case of displaying that the user is in the service area of a hot spot dealer in roaming contract relation to the own hot spot dealer; and~~

~~to display~~ the network congestion degree is displayed by the control means controlling the flickering cycle of the light-emitting means according to the network congestion degree.

7. ~~The system for informing that the user is in or not in a wireless LAN service area~~ according to claim 1, wherein wireless LAN ESS (extended service set) ID is used as the identification data code of the hot spot dealer.

8. ~~The system for informing that the user is in or not in a wireless LAN service area~~ according to claim 1,

which further comprises an agent authentication means set by the ~~user's own subscribed hot spot dealer~~ first service provider and the second service provider ~~a hot spot dealer in roaming contract relation to the own hot spot dealer~~; and

in which:

at the user side terminal, data concerning the agent authentication means of the ~~user's own subscribed hot spot dealer~~ first service provider and the second service provider ~~a hot spot dealer in roaming contract relation to the own hot spot dealer~~ and data necessary for these authentications are preliminarily stored in the ~~memory~~ preset data storing means;

the agent authentication means carries out authentication by using ~~[[the]]~~ data preset by the user; and

when the agent authentication means has carried out authentication successfully, data indicative of that the pertinent service area is that of the successfully authenticated ~~hot spot dealer~~ service provider is outputted to the display means for display.

9. The system ~~for informing that the user is in or not in a wireless LAN service area~~ according to claim 1, which further comprises a means for deciding, when a check is made as to whether the obtained identification ~~data code~~ is identical with the identification ~~data code~~ of the ~~user's own subscribed hot spot dealer~~ first service provider as stored in the preset data storing means, that the obtained identification data and the identification data stored in the preset data storing means are identical when the two data are not perfectly identical but partly identical.

10. A system ~~for informing that the user is in or not in a wireless LAN service area~~ according to claim 1, further comprising authentication means for performing an authentication of the ~~user's own subscribed hot spot dealer~~ first service provider or the ~~roaming contract relation dealer~~ second service provider, the authentication being performed using data preset by the user, whereby the authentication means outputs an indication on the display of the display means as to whether or not the authentication was successful.

11. A method of ~~informing that the user is in or not in a wireless LAN service area, in which~~ providing information of a hot spot dealer that provides service for a user in a wireless LAN service area, comprising:

a step of storing, in a preset data storing means, identification data of the ~~user's own subscribed~~ hot spot dealer, which is a first service provider to which the user is subscribed to,

and identification data of a or a second service provider hot spot dealer in roaming contract relation to the first service provider own hot spot dealer are stored in a preset data storing means; and

~~the method comprising:~~

~~a step executed by a wireless communication means to obtain the electric field intensity of a channel as a subject of survey and a identification data code of [[a]] the hot spot dealer, which is transmitted on the channel, and to check whether the obtained identification data code is the identification data code of the user's own subscribed hot spot dealer as stored in preset data storing means first service provider or the second service provider;~~

~~a step of displaying on a display of the wireless communication means, when the obtained identification data is identical with the user's own subscribed hot spot dealer, that the obtained electric field intensity is that of the user's own subscribed hot spot dealer and not that of the roaming contract relation dealer to enable the user to view the displayed content at a glance;~~

~~a step of making a check, when the obtained identification data fails to be identical with the identification data of the user's own subscribed hot spot dealer, as to whether the obtained data is identical with the identification data of the roaming contract relation dealer; and~~

~~a step of displaying on the display of the wireless communication means, when the obtained identification data is identical with the identification data of the roaming contract relation dealer, that the obtained electric field intensity is that of the roaming contract relation dealer and not that of the user's own subscribed hot spot dealer to enable the user to view the displayed content at a glance;~~

a step of displaying, on a light-emitting means of a display means, a network congestion degree by controlling a flickering cycle of the light-emitting means according to the network congestion degree,

wherein the identification data of each of the first and second service providers hot spot dealer to which the user is subscribed corresponds to an includes the unique identification code that is unique to the hot spot dealer to which the user is subscribed and which is the same for all other users who are subscribed to the hot spot dealer and does not include any data unique to the user or any of the other users,

wherein the light-emitting means of the display means is controlled to emit light in a first color if the hot spot dealer is the first service provider and in a second color different from the first color if the hot spot dealer is the second service provider.

12. (Canceled).

13. (Canceled).

14. ~~The method for informing that the user is in or not in a wireless LAN service area~~ according to claim 11, which comprises a step of collecting data link layer level protocol data, and obtaining the network congestion degree of the service area ~~and outputting the obtained network congestion degree to the display means~~ based on the data link layer level protocol data.

15. (Canceled) – its features now included in claim 11.

16. ~~The method for informing that the user is in or not in a wireless LAN service area~~ according to claim ~~[[12]]~~ 11, which comprises a step of collecting data link layer level protocol data, and obtaining the network congestion degree of the service area ~~and displaying the network congestion degree by controlling the flickering cycle of the light-emitting means based on the network congestion degree~~ based on the data link layer level protocol data.

17. ~~The method for informing that the user is in or not in a wireless LAN service area~~ according to claim 11, wherein wireless LAN ESS (Extended Service Set) ID is used as the identification ~~data~~ code of the hot spot dealer.

18. (Canceled).

19. The system according to claim 4, wherein the network congestion degree is obtained by measuring reliability of reception of an acknowledged (ACK) frame that is transmitted by an access point, or by measuring frequency of reception of a Clear to Send (CTS) frame that is transmitted by the access point, and wherein the network congestion degree is displayed on the display means having one of a plurality of colors for providing an indication of a level of congestion among a plurality of levels of congestion.

20. ~~The method for informing that the user is in or not in a wireless LAN service area~~ according to claim 11, wherein the network congestion degree is obtained by measuring reliability of reception of an acknowledged (ACK) frame that is transmitted by an access point, or by measuring frequency of reception of a Clear to Send (CTS) frame that is transmitted by the access point, and wherein the network congestion degree is displayed on the display having one

of a plurality of colors for providing an indication of a level of congestion among a plurality of levels of congestion.

21. The system according to claim 4, wherein the system is a Carrier Sense Multiple Access System, and wherein the network congestion degree is obtained by periodically measuring a carrier sense function, and wherein the network congestion degree is displayed on the display means having one of a plurality of colors for providing an indication of a level of congestion among a plurality of levels of congestion.